# ENVIRONMENTAL MANAGEMENT

Index Volume 6 1982


## Editorial Board

| | |
|---|---|
| ROBERT S. DE SANTO<br>Editor-in-Chief | P.O. Box AA, Niantic, Connecticut 06357, USA |
| FRANCESCO DI CASTRI | Natural Resources Research Division, Man and the Biosphere Program, UNESCO, 7 Place de Fontenoy, F-75 Paris, France |
| WILLIAM BENNETTA | Box 26603, San Francisco, California 94126, USA |
| STEPHEN R. KESSELL | Alligator Rivers Region Research Institute, Jabiru 5796 NT, Australia |
| JEROME P. HARKINS | J. P. Harkins, Inc., 230 Park Avenue, New York, New York 10017, USA |
| RALPH ADAM FINE | Milwaukee County Courthouse, 901 North Ninth Street, Milwaukee, Wisconsin 52322, USA |
| EDWARD T. LINACRE | School of Earth Sciences, Macquarie University, New South Wales 2113, Australia |
| JON GHISELIN<br>Book Review Editor | 1252 Woodcrest Drive, Kenhorst, Pennsylvania 19607, USA |
| BIRGER G. ANDERSEN | Science Applications, Inc., 1200 Prospect Street, La Jolla, California 92037, USA |
| VYTAUTAS KLEMAS | College of Marine Studies, University of Delaware, Newark, Delaware 19711, USA |
| JOHN E. COSTA | Department of Geography, University of Denver, University Park, Denver, Colorado 80208, USA |
| J. G. NELSON | Faculty of Environmental Study, Waterloo, Ontario N2L 3G1, Canada |
| VACLAV SMIL | Department of Geography, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada |
| STEPHEN C. WALTER<br>Editorial Assistant | P.O. Box AA, Niantic, Connecticut 06357, USA |



Springer International

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions, also in microform, is transferred to the publisher.

The use of registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

© 1982 by Springer-Verlag New York, Heidelberg, Berlin

# Author Index


Airola, T. M. and D. Wilson: Recreational Benefits of Residual Open Space: A Case Study of Four Communities in Northeastern New Jersey, 471–484

Bakus, G. J., W. G. Stillwell, S. M. Latter, and M. C. Wallerstein: Decision Making: With Applications for Environmental Management, 493–504
Beauchamp, J. J., V. Kane, P. T. Singley, and R. B. McLean: Impingement of Threadfin Shad: Effects of Temperature and Hydrography, 431–439
Betancourt, J. L. and M. L. Samuels: Modeling the Long-Term Effects of Fuelwood Harvests on Pinyon-Juniper Woodlands, 505–515
Bonnicksen, T. M. and E. C. Stone: Managing Vegetation Within U.S. National Parks, 101–102
Bonnicksen, T. M. and E. C. Stone: Managing Vegetation Within U.S. National Parks: A Policy Analysis, 109–122
Bratton, S. P., L. L. Stromberg, and M. E. Harmon: Firewood-Gathering Impacts in Backcountry Campsites in Great Smoky Mountains National Park, 63–72
Brenner, F. J., R. B. Kelly, and J. Kelly: Mammalian Community Characteristics on Surface Mine Lands in Pennsylvania, 241–249
Bruder, M. D. and T. B. Knopp: Space Perception as a Factor in Land Use Decision Making, 193–198

Campbell, K. L., L. R. Sinclair, K. R. Reddy, P. D. Sacco, and D. A. Graetz: Water Treatment by Aquatic Ecosystem: Nutrient Removal by Reservoirs and Flooded Fields, 261–272
Christie, D. R. and M. S. Race: Coastal Zone Development: Mitigation, Marsh Creation, and Decision Making, 317–328

Davis, H. C. and E. M. Lofting: Air Pollution in California: Manufacturing vs. Services, 337–342
Dawson, G. A., J. J. Rochow, and F. G. Goff: Site Examination of Threatened and Endangered Plant Species, 307–316
DeSanto, R. S.: A Note of Thanks to Our Referees, 465–466
Drtina, R. E. and S. B. Lundstedt: Structuring Cooperative Behavior under the National Environmental Policy Act of the United States, 21–26

Farnworth, E. G. and C. F. Jordan: Natural vs. Plantation Forests: A Case Study of Land Reclamation Strategies for the Humid Tropics, 485–492

Gares, P. A. and Sherman, D. J.: Environmental Strategies: A Case Study of Systematic Evaluation, 421–429
Ghiselin, J.: Reaching Environmental Decisions: Making Subjective and Objective Judgements, 103–108
Giles, Jr., R. H.: Management Knowledge through Wildlife Research: A Perspective, 185–191
Godwin, R. K. and D. Goetze: Regional Intergovernmental Institutions: Participation Benefits and Costs, 527–533
Goetze, D. and R. K. Godwin: Regional Intergovernmental Institutions: Participation Benefits and Costs, 527–533
Goff, F. G., G. A. Dawson, and J. J. Rochow: Site Examination of Threatened and Endangered Plant Species, 307–316
Graetz, D. A., K. L. Campbell, L. R. Sinclair, K. R. Reddy, P. D. Sacco: Water Treatment by Aquatic Ecosystem: Nutrient Removal by Reservoirs and Flooded Fields, 261–272
Graf, W. L.: Tamarisk and River-Channel Management, 283–296
Gray, G. G. and J. S. Larson: Estimating Relative Demand for Wildlife: Conservation Activity Indicators, 373–376
Greer, D. M.: Urban Waterfowl Population: Ecological Evaluation of Management and Planning, 217–229
Griggs, G. B. and L. Paris: Flood Control Failure: San Lorenzo River, California, 407–419

Harding, C. F. and R. W. Thompson: The Environmental Regulator and Industrial Development, 27–33
Harmon, M. E., S. P. Bratton, and L. L. Stromberg: Firewood-Gathering Impacts in Backcountry Campsites in Great Smoky Mountains National Park, 63–72
Hartwell, A. D. and F. J. Mogolesko: Three-Dimensional Field Studies of Thermal Backwashing Plumes, 55–62
Heede, B. H.: Gully Control: Determining Treatment Priorities for Gullies in a Network, 441–451
Hendrix, P. F., C. L. Langner, and E. P. Odum: Cadmium in Aquatic Microcosms: Implications for Screening the Ecological Effects of Toxic Substances, 543–553
Hyman, E. L.: Wyoming's Industrial Siting Permit Process and Environmental Impact Assessment, 1–7

Janardan, K. G., D. Schaeffer, and H. W. Kerster: Monitoring Toxics by Group Testing, 467–469
Jordan, C. F. and E. G. Farnworth: Natural vs. Plantation Forests: A Case Study of Land Reclamation Strategies for the Humid Tropics, 485–492

Kane, V., P. T. Singley, R. B. McLean, and J. J. Beauchamp: Impingement of Threadfin Shad: Effects of Temperature and Hydrography, 431–439
Kelly, J., F. J. Brenner, and R. B. Kelly: Mammalian Community Characteristics on Surface Mine Lands in Pennsylvania, 241–249
Kelly, R. B., J. Kelly, and F. J. Brenner: Mammalian Community Characteristics on Surface Mine Lands in Pennsylvania, 241–249
Kerster, H. W., K. G. Janardan, and D. Schaeffer: Monitoring Toxics by Group Testing, 467–469
Knopp, T. B. and M. D. Bruder: Space Perception as a Factor in Land Use Decision Making, 193–198
Kraushaar, J. M., D. J. Parsons, and T. J. Stohlgren: Wilderness Permit Accuracy: Differences between Reported and Actual Use, 329–335
Kumar, K. D. and D. S. Vaughan: Entrainment Mortality of Ichthyoplankton: Detectability and Precision of Estimates, 155–162
Lakhani, H.: Air Pollution Control by Economic Incentives in the U.S. Policy, Problems, and Progress, 9–20
Langner, C. L., E. P. Odum, and P. F. Hendrix: Cadmium in Aquatic Microcosms: Implications for Screening the Ecological Effects of Toxic Substances, 543–553
Larson, G. L., and D. G. Silsbee: Bacterial Water Quality: Springs and Streams in the Great Smoky Mountains National Park, 353–359
Larson, J. S. and G. G. Gray: Estimating Relative Demand for Wildlife: Conservation Activity Indicators, 373–376
Latter, S. M., M. C. Wallerstein, G. J. Bakus and W. G. Stillwell:

Decision Making: With Applications for Environmental Management, 493–504
Lemly, A. D.: Erosion Control at Construction Sites on Red Clay Soils, 343–352
Lemons, J. and D. Stout: National Parks Legislative Mandate in the United States of America, 199–207
Lofting, E. M. and H. C. Davis: Air Pollution in California: Manufacturing vs. Services, 337–342
Loftis, J. C., R. C. Ward, and D. J. Schaeffer: Water Quality Monitoring: What Directions Should New Programs Take?, 279–282
Lundstedt, S. B. and R. E. Drtina: Structuring Cooperative Behavior under the National Environmental Policy Act of the United States, 21–26

McLean, R. B., J. J. Beauchamp, V. Kane, and P. T. Singley: Impingement of Threadfin Shad: Effects of Temperature and Hydrography, 431–439
Miller, A: Environmental Problem-Solving: Psychosocial Factors, 535–541
Miller, P. C.: Simulation of Socio-ecological impacts: Modeling a Fishing Village, 123–144
Mogolesko, F. J. and A. D. Hartwell: Three-Dimensional Field Studies of Thermal Backwashing Plumes, 55–62
Muschett, F. D.: Clean Air With Economic Growth, 145–154

Odum, E. P., P. F. Hendrix, and C. L. Langner: Cadmium in Aquatic Microcosms: Implications for Screening the Ecological Effects of Toxic Substances, 543–553

Paris, L. and G. B. Griggs: Flood Control Failure: San Lorenzo River, California, 407–419
Parsons, D. J., T. J. Stohlgren and J. M. Kraushaar: Wilderness Permit Accuracy: Differences between Reported and Actual Use, 329–335

Race, M. S. and D. R. Christie: Coastal Zone Development: Mitigation, Marsh Creation, and Decision Making, 317–328
Radloff, D. L., W. C. Schopfer, and R. F. Yancik: Slash Fire Hazard Analysis on the Siskiyou National Forest, 517–526
Reddy, K. R., P. D. Sacco, D. A. Graetz, K. L. Campbell, and L. R. Sinclair: Water Treatment by Aquatic Ecosystem: Nutrient Removal by Reservoirs and Flooded Fields, 261–272.
Rochow, J. J., F. G. Goff, and G. A. Dawson: Site Examination of Threatened and Endangered Plant Species, 307–316
Rowe, P. G.: Energy and Other Resource Conservation within Urbanizing Areas, 231–240
Ryan, D. R.: Environmental Regulation: A New Approach, 95–100

Sacco, P. D., D. A. Graetz, K. L. Campbell, L. R. Sinclair, and K. R. Reddy: Water Treatment by Aquatic Ecosystems: Nutrient Removal by Reservoirs and Flooded Fields, 261–272
Saejs, H. L. F. and P. B. M. Stortelder: Converting an Estuary to Lake Grevelingen: Environmental Review of a Coastal Engineering Project, 377–405
Samuels, M. L. and J. L. Betancourt: Modeling the Long-Term Effects of Fuelwood Harvests on Pinyon-Juniper Woodlands, 505–515
Schaeffer, D., H. W. Kerster, and K. G. Janardan: Monitoring Toxics by Group Testing, 467–469
Schaeffer, D. J., J. C. Loftis, and R. C. Ward: Water Quality Monitoring: What Directions Should New Programs Take?, 279–282
Schopfer, W. C., R. F. Yancik, and D. L. Radloff: Slash Fire Hazard Analysis on the Siskiyou National Forest, 517–526
Schware, R.: Official and Folk Flood Warning Systems: An Assessment, 209–216
Severinghaus, M. C. and W. D. Severinghaus: Effects of Tracked Vehicle Activity on Bird Populations, 163–169
Severinghaus, W. D. and M. C. Severinghaus: Effects of Tracked Vehicle Activity on Bird Populations, 163–169
Shen, T. T.: Air Quality Assessment for Land Disposal of Industrial Wastes, 297–305
Sherman, D.J. and P. A. Gares: Environmental Strategies: A Case Study of Systematic Evaluation, 421–429
Sinclair, L. R., K. R. Reddy, P. D. Sacco, D. A. Graetz, and K. L. Campbell: Water Treatment by Aquatic Ecosystems: Nutrient Removal by Reservoirs and Flooded Fields, 261–272
Singley, P. T., R. B. McLean, J. J. Beauchamp, and V. Kane: Impingement of Threadfin Shad: Effects of Temperature and Hydrography, 431–439
Stander, J. M., A. V. Tyler, and C. L. Smith: Human Behavior Incorporation into Ecological Computer Simulations, 251–260
Stillwell, W. G., S. M. Latter, M. C. Wallerstein and G. J. Bakus: Decision Making: With Applications for Environmental Management, 493–504
Silsbee, D. G., and G. L. Larson: Bacterial Water Quality: Springs and Streams in the Great Smoky Mountains National Park, 353–359
Smith, C. L., J. M. Stander, and A. V. Tyler: Human Behavior Incorporation into Ecological Computer Simulations, 251–260
Stohlgren, T. J., J. M. Kraushaar, and D. J. Parsons: Wilderness Permit Accuracy: Differences between Reported and Actual Use, 329–335
Stone, E. C. and T. M. Bonnicksen: Managing Vegetation Within U.S. National Parks, 101–102
Stone, E. C. and T. M. Bonnicksen: Managing Vegetation Within U.S. National Parks: A Policy Analysis, 109–122
Stortelder, P. B. M. and H. L. F. Saejs: Converting an Estuary to Lake Grevelingen: Environmental Review of a Coastal Engineering Project, 377–405
Stout, D. and J. Lemons: National Parks Legislative Mandate in the United States of America, 199–207
Stromberg, L. L., M. E. Harmon, and S. P. Bratton: Firewood-Gathering Impacts in Backcountry Campsites in Great Smoky Mountains National Park, 63–72
Suter, II, G. W.: Terrestrial Perturbation Experiments for Environmental Assessment, 43–54

Thompson, R. W. and C. F. Harding: The Environmental Regulator and Industrial Development, 27–33
Tyler, A. V., C. L. Smith, and J. M. Stander: Human Behavior Incorporation into Ecological Computer Simulations, 251–260

Vaughn, D. S. and K. D. Kumar: Entrainment Mortality of Ichthyoplankton: Detectability and Precision of Estimates, 155–162

Viessman, Jr., W.: National Water Policy: The Need for Institutional Reform, 35–41

Wallerstein, M. C., G. J. Bakus, W. G. Stillwell, and S. M. Latter: Decision Making: With Applications for Environmental Management, 493–504
Ward, R. C., D. J. Schaeffer, and J. C. Loftis: Water Quality Monitoring: What Directions Should New Programs Take?, 279–282
Wilson, D. and T. M. Airola: Recreational Benefits of Residual Open Space: A Case Study of Four Communities in Northeastern New Jersey, 471–484

Yancik, R. F., D. L. Radloff, and W. C. Schopfer: Slash Fire Hazard Analysis on the Siskiyou National Forest, 517–526

# Title Index


Air Pollution Control by Economic Incentives in the U.S. Policy, Problems, and Progress: H. Lakhani, 9–20
Air Pollution in California: Manufacturing vs. Services: H. C. Davis and E. M. Lofting, 337–342
Air Quality Assessment for Land Disposal of Industrial Wastes: T. T. Shen, 297–305

Bacterial Water Quality: Springs and Streams in the Great Smoky Mountains National Park: D. G. Silsbee and G. L. Larson, 353–359

Cadmium in Aquatic Microcosms: Implications for Screening the Ecological Effects of Toxic Substances: P. F. Hendrix, C. L. Langner, and E. P. Odum, 543–553
Clean Air With Economic Growth: F. D. Muschett, 145–154
Coastal Zone Development: Mitigation, Marsh Creation, and Decision Making: M. S. Race and D. R. Christie, 317–328
Converting an Estuary to Lake Grevelingen: Environmental Review of a Coastal Engineering Project: H. L. F. Saejs and P. B. M. Stortelder, 377–405

Decision Making: With Applications for Environmental Management: G. J. Bakus, W. G. Stillwell, S. M. Latter, and M. C. Wallerstein, 493–504

Effects of Tracked Vehicle Activity on Bird Populations: W. D. Severinghaus and M. C. Severinghaus, 163–169
Energy and Other Resource Conservation within Urbanizing Areas: P. G. Rowe, 231–240.
Entrainment Mortality of Ichthyoplankton: Detectability and Precision of Estimates: D. S. Vaughan and K. D. Kumar, 155–162
Environmental Problem-Solving: Psychosocial Factors: A. Miller, 535–541
Environmental Regulation: A New Approach: D. R. Ryan, 95–100
The Environmental Regulator and Industrial Development: R. W. Thompson and C. F. Harding, 27–33
Environmental Strategies: A Case Study of Systematic Evaluation: D. J. Sherman and P. A. Gares, 421–429
Erosion Control at Construction Sites on Red Clay Soils: A. D. Lemly, 343–352
Estimating Relative Demand for Wildlife: Conservation Activity Indicators: G. G. Gray and J. S. Larson, 373–376

Firewood-Gathering Impacts in Backcountry Campsites in Great Smoky Mountains National Park: S. P. Bratton, L. L. Stromberg and M. E. Harmon, 63–72
Flood Control Failure: San Lorenzo River, California: G. B. Griggs and L. Paris, 407–419

Gully Control: Determining Treatment Priorities for Gullies in a Network: B. H. Heede, 441–451

Human Behavior Incorporation into Ecological Computer Simulations: C. L. Smith, J. M. Stander, and A. V. Tyler, 251–260

Impingement of Threadfin Shad: Effects of Temperature and Hydrography: R. B. McLean, J. J. Beauchamp, V. Kane, and P. T. Singley, 431–439

Mammalian Community Characteristics on Surface Mine Lands in Pennsylvania: F. J. Brenner, R. B. Kelly, and J. Kelly, 241–249
Management Knowledge through Wildlife Research: A Perspective: R. H. Giles, Jr., 185–191
Managing Vegetation Within U.S. National Parks: T. M. Bonnicksen and E. C. Stone, 101–102
Managing Vegetation Within U.S. National Parks: A Policy Analysis: T. M. Bonnicksen, and E. C. Stone, 109–122
Modeling the Long-Term Effects of Fuelwood Harvests on Pinyon-Juniper Woodlands: M. L. Samuels and J. L. Betancourt, 505–515
Monitoring Toxics by Group Testing: D. Schaeffer, H. W. Kerster, and K. G. Janardan, 467–469

National Parks Legislative Mandate in the United States of America: J. Lemons, D. Stout, 199–207
National Water Policy: The Need for Institutional Reform: W. Viessman, Jr. 35–41
Natural vs. Plantation Forests: A Case Study of Land Reclamation Strategies for the Humid Tropics: C. F. Jordan and E. G. Farnworth, 485–492
A Note of Thanks to Our Referees: R. S. DeSanto, 465–466

Official and Folk Flood Warning Systems: An Assessment: R.Schware, 209–216

Reaching Environmental Decisions: Making Subjective and Objective Judgements: J. Ghiselin, 103–108
Recreational Benefits of Residual Open Space: A Case Study of Four Communities in Northeastern New Jersey: T. M. Airola and D. Wilson, 471–484
Regional Intergovernmental Institutions: Participation Benefits and Costs: D. Goetze, and R. K. Godwin, 527–533

Simulation of Socio-ecological impacts: Modeling a Fishing Village: P. C. Miller, 123–144
Site Examination of Threatened and Endangered Plant Species: F. G. Goff, G. A. Dawson, and J. J. Rochow, 307–316
Slash Fire Hazard Analysis on the Siskiyou National Forest: D. L. Radloff, W. C. Schopfer, and R. F. Yancik, 517–526
Space Perception as a Factor in Land Use Decision Making: T. B. Knopp and M. D. Bruder, 193–198
Structuring Cooperative Behavior under the National Environmental Policy Act of the United States: R. E. Drtina and S. B. Lundstedt, 21–26

Tamarisk and River-Channel Management: W. L. Graf, 283–296
Three-Dimensional Field Studies of Thermal Backwashing Plumes: A. D. Hartwell and F. J. Mogolesko, 55–62
Terrestrial Perturbation Experiments for Environmental Assessment: G. W. Suter, II, 43–54

Urban Waterfowl Population: Ecological Evaluation of Management and Planning: D. M. Greer, 217–229

Water Quality Monitoring: What Directions Should New Programs Take?: J. C. Loftis, R. C. Ward, D. J. Schaeffer, 279–282

Water Treatment by Aquatic Ecosystem: Nutrient Removal by Reservoirs and Flooded Fields: K. R. Reddy, P. D. Sacco, D. A. Graetz, K. L. Campbell, and L. R. Sinclair, 261–272
Wilderness Permit Accuracy: Differences between Reported and Actual Use: D. J. Parsons, T. J. Stohlgren, and J. M. Kraushaar, 329–335
Wyoming's Industrial Siting Permit Process and Environmental Impact Assessment: E. L. Hyman, 1–7